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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,913	09/08/2005	Maria Francisca Holtus	069818-1250	1024

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EXAMINER	
BEKKER, KELLY JO	

ART UNIT	PAPER NUMBER
1781	

MAIL DATE	DELIVERY MODE
07/28/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,913	HOLTUS ET AL.	
	Examiner	Art Unit	
	KELLY BEKKER	1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24 and 26-51* is/are pending in the application.

4a) Of the above claim(s) *49 and 50* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24,26-48 and 51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's amendments made June 1, 2010 have been entered.
Claims 24 and 26-51 remain pending.
Claims 49 and 50 have been withdrawn from consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The 112 second paragraph rejection of claim 35 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, specifically for the recitation, "wherein the one or more plasticizers are present in an amount of 0-10% by weight" has been withdrawn in light of applicant's amendments made June 1, 2010.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The 102(b) rejection of claim 35 as being anticipated by Basa (US 6,426,110 B1) as evidenced by Alanate 385 (pages 1 and 2) and as evidenced by 14.0 Spray Drying (http://class.fst.ohio-state.edu/Dairy_Tech/14Spraydrying.htm pages 1-15) and as evidenced by Dairy Chemistry and Physics (http://www.foodsci.uoguelph.ca/dairyedu/chem.html pages 1-16) has been withdrawn in light of applicant's amendments made June 1, 2010. Specifically, the reference does not teach 3-10% plasticizer.

Claims 24, 26-34, 38-42 and 44-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Basa (US 6,426,110 B1) as evidenced by Alanate 385 (pages 1 and 2) and as evidenced by 14.0 Spray Drying (http://class.fst.ohio-state.edu/Dairy_Tech/14Spraydrying.htm pages 1-15) and as evidenced by Dairy

Chemistry and Physics (http://www.foodsci.uoguelph.ca/dairyedu/chem.html pages 1-16).

Basa teaches of a creamer powder with a high protein and low carbohydrate content for use in nutritious foods (abstract). Basa teaches that the creamer powders are used for soups, coffee, teas, shakes, and foaming beverages (Column 1 lines 9-21). Basa teaches that an object of the invention is to produce a creamer powder high in protein content (Column 2 lines 15-18). Basa teaches that the protein in the creamer powder is preferably a source of casinate called Alanate 385, which is a spray dried milk protein manufactured from fresh skim milk and surface treated with glycerol mono-oleate (Column 3 line 48 through Column 4 line 10).

Regarding a foaming ingredient comprising vacuoles which comprise entrapped gas as recited in claim 24 and the vacuoles having walls comprised of at least 85% by weight proteins as recited in claim 24, preferably wherein the protein content is at least 88% as recited in claim 26, at least 90% as recited in claim 27, at least 92% as recited in claim 28, at least 94% as recited in claim 29, the protein as selected from a group of proteins including milk proteins as recited in claim 41, and the milk protein as casinate as recited in claim 42:

- Basa teaches that the creamer composition contains Alanate 385 which is a spray dried caseinate product.
- As evidenced by Alanate,
    - Alanate 385 comprises 92.9% protein total weight
    - Alanate 385 comprises 95.5% protein dry weight;
    - Alanate 385 is a dispersible calcium caseinate; and
    - Alanate 385 is formed from spray dried fresh skim milk.
- As evidenced by 14.0 Spray Drying, section 14.5.3, the structure of a spray dried particle is a hollow sphere, with the solids being a shell which surrounds a central air filled vacuole.

Thus, the creamer composition as taught by Basa comprises Alanate 385 which is a spray dried caseinate product and therefore, a hollow sphere, with the solids,

including caseinate protein, being a shell/wall which surrounds a central gas filled vacuole.

Specifically regarding the protein content of the vacuole walls, since spray dried vacuole walls are created by solids, as evidenced by Spray Drying, one of ordinary skill in the art would expect that the vacuole walls are compositionally based on dry weight and thus one of ordinary skill in the art would expect that the Alanate 385 which is spray dried and comprises 95.5% protein dry weight, would comprises about 95.5% protein in the vacuole walls.

Specifically regarding the Alanate 385 as taught by Basa as a foaming ingredient as instantly claimed, since the Alanate 385 is a spray dried protein and thus is a gas filled vacuole comprising air as evidenced by Spray Drying, one of ordinary skill in the art at the time the invention was made would expect that the protein, when used as a base to produce a liquid beverage, such as taught by Basa, would release the gas contained within the vacuole, thus acting as a foaming ingredient.

Regarding the foaming ingredient as comprising no added carbohydrates as recited in claim 30, one or more plasticizers as recited in claim 31, wherein the plasticizers are at least one of polyols, sugar alcohols, or lipids as recited in claim 32, wherein the polyols or sugar alcohols are selected from the group consisting of glycerol, mannitol, sorbitol, lactitol, erythritol and threhalose as recited in claim 33 and the lipids are selected from the group consisting of fatty acids, monoglycerides and phospholipids as recited in claim 34, and at least one additive as recited in claim 38, wherein the additive is one or more emulsifiers as recited in claim 39 and the emulsifier is at least one of a monoglyceride, diglyceride, or combination thereof as recited in claim 40:

- Basa teaches that the creamer composition contains Alanate 385 which is spray dried caseinate product.
- As evidenced by Alanate,
    - Alanate 385 is spray dried directly from fresh skim milk; i.e. Alanate 385 does not contain added carbohydrates; and
    - Alanate 385 comprises 92.9% protein, 0.1% lactose (a carbohydrate), 1.3% fat from the fresh skim milk.

- As evidenced by Dairy Chemistry and Physics,
    - About 98.3% fats in milk are triglycerides which are glycerol with three different fatty acids (Milk Lipids- Chemical Properties);
    - Milk fat also includes about 0.8% phospholipids, based on the weight of the other lipids (Milk Lipids- Chemical Properties); and
    - Milk fat includes a small amount of monoglycerides and diglyceride (Milk Lipids- Chemical Properties).

Therefore, the foaming ingredient Alanate 385 as taught by Basa contains 1.3% fat which is comprised of skim milk fat which, as evidenced by Dairy Chemistry and Physics, is comprised of a minor amount of monoglycerides and diglyceride, 98.3% glycerol and fatty acids in the form of triglycerides and 0.8% phospholipids; the foaming ingredient as taught by Basa thus contains no added carbohydrates and a minor amount of monoglycerides and diglyceride which are emulsifier additives and about 1.3% fat in the form of the plasticizers glycerol, fatty acids, and phospholipids.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 24, 26-48, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basa (US 6,426,110 B1) as evidenced by Alanate 385 (pages 1 and 2) and as evidenced by 14.0 Spray Drying (http://class.fst.ohio-state.edu/Dairy_Tech/14Spraydrying.htm pages 1-15) and as evidenced by Dairy Chemistry and Physics (http://www.foodsci.uoguelph.ca/dairyedu/chem.html pages 1-16), in view of Bisperink et al (US 2002/0127322 A1).

Note: Claims 24, 26-34, 38-42, and 44-46 are rejected both as anticipated by Basa as evidenced by Alanata 385 and 14.0 Spray Drying and Dairy Chemistry and Physics, and alternatively over Basa as evidenced by Alanata 385 and 14.0 Spray Drying and Dairy Chemistry and Physics, and in view of Bisperink et al.

Basa teaches of a creamer powder with a high protein and low carbohydrate content for use in nutritious foods (abstract). Basa teaches that the creamer powders

are used for soups, coffee, teas, shakes, and foaming beverages (Column 1 lines 9-21). Basa teaches that an object of the invention is to produce a creamer powder high in protein content (Column 2 lines 15-18). Basa teaches that the protein in the creamer powder is preferably a source of casinate called Alanate 385, which is a spray dried milk protein manufactured from fresh skim milk and surface treated with glycerol mono-oleate (Column 3 line 48 through Column 4 line 10).

Regarding a foaming ingredient comprising vacuoles which comprise entrapped gas as recited in claim 24 and the vacuoles having walls comprised of at least 85% by weight proteins as recited in claim 24, preferably wherein the protein content is at least 88% as recited in claim 26, at least 90% as recited in claim 27, at least 92% as recited in claim 28, at least 94% as recited in claim 29, the protein as selected from a group of proteins including milk proteins as recited in claim 41, and the milk protein as casinate as recited in claim 42:

- Basa teaches that the creamer composition contains Alanate 385 which is a spray dried caseinate product.
- As evidenced by Alanate,
    - Alanate 385 comprises 92.9% protein total weight
    - Alanate 385 comprises 95.5% protein dry weight;
    - Alanate 385 is a dispersible calcium caseinate; and
    - Alanate 385 is formed from spray dried fresh skim milk.
- As evidenced by 14.0 Spray Drying, section 14.5.3, the structure of a spray dried particle is a hollow sphere, with the solids being a shell which surrounds a central air filled vacuole.

Thus, the creamer composition as taught by Basa comprises Alanate 385 which is a spray dried caseinate product and therefore, a hollow sphere, with the solids, including caseinate protein, being a shell/wall which surrounds a central gas filled vacuole.

Specifically regarding the protein content of the vacuole walls, as discussed above, since spray dried vacuole walls are created by solids, as evidenced by Spray

Drying, one of ordinary skill in the art would expect that the vacuole walls are compositionally based on dry weight and thus one of ordinary skill in the art would expect that the Alanate 385 which is spray dried and comprises 95.5% protein dry weight, would comprises about 95.5% protein in the vacuole walls. Alternatively, as Basa teaches that it is desirable to prepare a nutritious creamer with a high protein content and of a foamer with 92.9% protein based on total weight, it would have been obvious to one of ordinary skill in the art to increase the 92.9% protein by total weight and thus the protein in the vacuole walls in order to form a more protein nutritious product. To increase the amount of protein in the foamer walls would be obvious, common sense, and within the routine determination of one of ordinary skill in the art, based on the teaching of Basa that higher protein contents are desirable to form nutritious foods.

Specifically regarding the Alanate 385 as taught by Basa as a foaming ingredient as instantly claimed, since the Alanate 385 is a spray dried protein and thus is a gas filled vacuole comprising air as evidenced by Spray Drying, one of ordinary skill in the art at the time the invention was made would expect that the protein, when used as a base to produce a liquid beverage, such as taught by Basa, would release the gas contained within the vacuole, thus acting as a foaming ingredient.

Regarding the foaming ingredient as comprising no added carbohydrates as recited in claim 30, one or more plasticizers as recited in claim 31, the plasticizers as in the range of 0-10% as recited in claim 35, wherein the plasticizers are at least one of polyols, sugar alcohols, or lipids as recited in claim 32, wherein the polyols or sugar alcohols are selected from the group consisting of glycerol, mannitol, sorbitol, lactitol, erythritol and threhalose as recited in claim 33 and the lipids are selected from the group consisting of fatty acids, monoglycerides and phospholipids as recited in claim 34, and at least one additive as recited in claim 38, wherein the additive is one or more emulsifiers as recited in claim 39 and the emulsifier is at least one of a monoglyceride, diglyceride, or combination thereof as recited in claim 40:

- Basa teaches that the creamer composition contains Alanate 385 which is spray dried caseinate product.

- As evidenced by Alanate,
    - Alanate 385 is spray dried directly from fresh skim milk; i.e. Alanate 385 does not contain added carbohydrates; and
    - Alanate 385 comprises 92.9% protein, 0.1% lactose (a carbohydrate), 1.3% fat from the fresh skim milk.
- As evidenced by Dairy Chemistry and Physics,
    - About 98.3% fats in milk are triglycerides which are glycerol with three different fatty acids (Milk Lipids- Chemical Properties);
    - Milk fat also includes about 0.8% phospholipids, based on the weight of the other lipids (Milk Lipids- Chemical Properties); and
    - Milk fat includes a small amount of monoglycerides and diglyceride (Milk Lipids- Chemical Properties).

Therefore, the foaming ingredient Alanate 385 as taught by Basa contains 1.3% fat which is comprised of skim milk fat which, as evidenced by Dairy Chemistry and Physics, is comprised of a minor amount of monoglycerides and diglyceride, 98.3% glycerol and fatty acids in the form of triglycerides and 0.8% phospholipids; the foaming ingredient as taught by Basa thus contains a minor amount of monoglycerides and diglyceride which are emulsifier additives and about 1.3% fat in the form of the plasticizers glycerol, fatty acids, and phospholipids.

Basa is silent to the plasticizer as in an amount of 3-10% as recited in claim 35 or 3-7% as recited in claim 36 or 4-6% as recited in claim 37, to the foaming ingredient as formed by spray drying a protein solution to obtain a powder, subjecting the powder to a gas under pressure at elevated temperatures to weaken the walls of the vacuoles existing in the powder particles to allow the vacuoles to take up the gas under pressure, cooling the powder to cure the vacuole walls and releasing the pressure as recited in claim 43, to the foaming ingredient as comprised in an instant cappuccino as recited in claim 47 or an instant milk shake as recited in claim 48.

Bisperink et al (Bisperink) teaches of a powdered foamer ingredient formed of a matrix containing carbohydrate, protein, and entrapped gas, for producing an enhanced amount of foam in foodstuffs and beverages (abstract). Bisperink teaches that 0-30%

fat, including milk fat, is included in the matrix and that fat is favorable for gas entrapment but not for stability (paragraph 0024). Bisperink teaches that foods, including milk shakes and cappuccino beverages, are well known to be used with soluble foamers to form foamed beverages (paragraphs 0003-0005). Bisperink teaches that the foamer ingredient may be used alone but is preferably combined with and used in a creamer powder (paragraph 0037). Bisperink teaches that soluble creamer powders are used as ingredients in soluble beverage powders of the instant type, including instant cappuccino (paragraph 0002). Bisperink teaches that the gas may be introduced into the matrix by any suitable process, including spray drying an aqueous solution of the matrix to form powder, subjecting the particles, i.e. powder, to an inert gas atmosphere at high pressure and high temperature above glass transition temperature which is the temperature at which the walls of the vacuoles weaken, and rapidly quenching the particles by cooling or release of pressure, to ensure entrapment of the gas (paragraph 0026).

Regarding the foaming ingredient as instantly claimed, as stated above, one of ordinary skill in the art would expect that the spray dried protein included in the creamer powder of Basa would inherently foam. Alternatively in the case that the reference does not in fact clearly produce a foamed product, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the spray dried preferred protein, Alanate 385, which is a carbohydrate and protein matrix comprising gas as evidenced by Alanate and 14.0 Spray Drying, in the creamer powder of Basa to be a foaming ingredient as taught by Bisperink. One would have been motivated to treat the spray dried carbohydrate and protein matrix, i.e. the Alanate 385, by subjecting the particles to an inert gas atmosphere at high pressure and high temperature above glass transition temperature which is the temperature at which the walls of the vacuoles weaken, and rapidly quenching the particles by cooling or release of pressure, to ensure entrapment of the gas and the formation of an enhanced foamer, as taught by Bisperink so that the creamer solution formed would contain enhanced foaming and would be able to form instant foamed beverages, including milk shakes and cappuccinos.

Regarding the plasticizer as in an amount of 3-10% or 3-7% or 4-6%, Basa teaches that the foaming ingredient contains about 1.3% plasticizers in the form of glycerol, fatty acids, and phospholipids, as discussed above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the amount of fat which is a plasticizer in the foaming ingredient of Basa in order to form a final product which favored gas entrapment as taught by Bisperink. It would have been further obvious to only increase the fat which is a plasticizer to an amount of 30% or less as fat at higher levels were known to decrease stability of entrapped gas as taught by Bisperink. To vary the fat ingredient and thus plasticizers, within the known range of 0-30% as taught by Bisperink, depending on the desired foam and foam stability of the final product would have been obvious and routine determination to one of ordinary skill in the art at the time the invention was made.

Regarding the foaming ingredient as formed by spray drying a protein solution to obtain a powder, subjecting the powder to a gas under pressure at elevated temperatures to weaken the walls of the vacuoles existing in the powder particles to allow the vacuoles to take up the gas under pressure, cooling the powder to cure the vacuole walls and releasing the pressure and the protein solution to be spray dried as comprising at least one plasticizer, as stated above, it would have been obvious to treat the spray dried carbohydrate and protein matrix, i.e. the Alanate 385, as taught by Basa by subjecting the particles to an inert gas atmosphere at high pressure and high temperature above glass transition temperature which is the temperature at which the walls of the vacuoles weaken, and rapidly quenching the particles by cooling or release of pressure, to ensure entrapment of the gas and the formation of an enhanced foamer, as taught by Bisperink so that the creamer solution formed would contain enhanced foaming and would be able to form instant foamed beverages, including milk shakes and cappuccinos. Specifically regarding product as quenched by lowering the pressure and the cooling or quenching by cooling and then lowering the pressure, applicant is reminded that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in

the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted); The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979); When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process. See In re Marosi, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) and In re Thorpe, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP § 2113. In the instant case, one of ordinary skill in the art would expect that the product of both methods, i.e. the product as quenched by lowering the pressure and the cooling or the product as quenched by cooling and then lowering the pressure, to be substantially the same as both methods accomplish quenching the product to entrap the gas, lowering the temperature of the product, and releasing the pressure around the product.

Regarding the protein solution to be spray dried as comprising at least one plasticizer, as the spray dried protein as taught by Basa contains plasticizers, one of ordinary skill in the art would expect the solution to form the spray dried protein also contain the plasticizers.

Regarding the foaming ingredient as comprised in an instant cappuccino or an instant milk shake, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the foaming ingredient, comprised in a creamer powder, in an instant beverage which was known to have foam, including a cappuccino or milk shake, as taught by Basa in view of Bisperink. One would have been motivated for the drink to be instant so that the consumer could quickly and conviently for the final product by mixing with liquid. One would have been motivated for the creamer with the foaming ingredient to be comprised in a drink mix so that the consumer could easily

form the final product by the simple addition of a liquid, such as water; i.e. so that the consumer did not require any other ingredients to form the desired foamed beverage. One would have been further motivated for the beverage powder to be of an instant milk shake composition when the final product desired was a milk shake and of a cappuccino composition when the final product desired was a cappuccino. To do so would have been obvious and routine determination to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments filed June 1, 2010 have been fully considered but they are not persuasive.

Applicant argues that Basa does not teach creamers that comprise 95.5% protein or a creamer comprising Alanate 385 that is spray dried. Applicant's argument is not convincing as (1) the claims recite a foaming ingredient (claim 24), including one which may be spray dried (claim 43) that can be included in foods, such as foamers or creamers (claim 44) and thus the claims do not require a creamer that comprises 95.5% protein or a creamer which is spray dried; and (2) the references of record teach of a foaming ingredient as instantly claimed.

Applicant argues that the references do not teach a foaming ingredient comprising vacuole walls comprising at least 85% by weight proteins. Applicant's argument is not convincing. As discussed herein and previously:

Regarding a foaming ingredient comprising vacuoles which comprise entrapped gas and the vacuoles having walls comprised of at least 85% by weight proteins Basa teaches that the creamer composition contains Alanate 385 which is a spray dried caseinate product.

- As evidenced by Alanate,
    - Alanate 385 comprises 92.9% protein total weight
    - Alanate 385 comprises 95.5% protein dry weight;
    - Alanate 385 is a dispersible calcium caseinate; and
    - Alanate 385 is formed from spray dried fresh skim milk.

- As evidenced by 14.0 Spray Drying, section 14.5.3, the structure of a spray dried particle is a hollow sphere, with the solids being a shell which surrounds a central air filled vacuole.

Thus, the creamer composition as taught by Basa comprises Alanate 385 which is a spray dried caseinate product and therefore, a hollow sphere, with the solids, including caseinate protein, being a shell/wall which surrounds a central gas filled vacuole.

Specifically regarding the protein content of the vacuole walls, as discussed above, since spray dried vacuole walls are created by solids, as evidenced by Spray Drying, one of ordinary skill in the art would expect that the vacuole walls are compositionally based on dry weight and thus one of ordinary skill in the art would expect that the Alanate 385 which is spray dried and comprises 95.5% protein dry weight, would comprises about 95.5% protein in the vacuole walls. Alternatively, as Basa teaches that it is desirable to prepare a nutritious creamer with a high protein content and of a foamer with 92.9% protein based on total weight, it would have been obvious to one of ordinary skill in the art to increase the 92.9% protein by total weight and thus the protein in the vacuole walls in order to form a more protein nutritious product. To increase the amount of protein in the foamer walls would be obvious, common sense, and within the routine determination of one of ordinary skill in the art, based on the teaching of Basa that higher protein contents are desirable to form nutritious foods.

Specifically regarding the Alanate 385 as taught by Basa as a foaming ingredient as instantly claimed, since the Alanate 385 is a spray dried protein and thus is a gas filled vacuole comprising air as evidenced by Spray Drying, one of ordinary skill in the art at the time the invention was made would expect that the protein, when used as a base to produce a liquid beverage, such as taught by Basa, would release the gas contained within the vacuole, thus acting as a foaming ingredient. Alternatively in the case that the reference does not in fact clearly produce a foamed product, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the spray dried preferred protein, Alanate 385, which is a carbohydrate and protein matrix comprising gas as evidenced by Alanate and 14.0 Spray Drying, in the creamer powder

of Basa to be a foaming ingredient as taught by Bisperink. One would have been motivated to treat the spray dried carbohydrate and protein matrix, i.e. the Alanate 385, by subjecting the particles to an inert gas atmosphere at high pressure and high temperature above glass transition temperature which is the temperature at which the walls of the vacuoles weaken, and rapidly quenching the particles by cooling or release of pressure, to ensure entrapment of the gas and the formation of an enhanced foamer, as taught by Bisperink so that the creamer solution formed would contain enhanced foaming and would be able to form instant foamed beverages, including milk shakes and cappuccinos.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KELLY BEKKER whose telephone number is (571)272-2739. The examiner can normally be reached on Monday through Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kelly Bekker/
Examiner
Art Unit 1781